



Earn a Minor in Enterprise Resource Planning (ERP) and Missouri S&T-SAP Certificate of Excellence

Offered by the Business & Information Technology Department

Overview

Corporations world-wide have focused on improving business processes for the past two decades. In their efforts to use information technology more effectively in enabling business processes, we have seen the emergence and growth of Enterprise Systems, and more recently, Extended Enterprise Systems such as Supply Chain Management (SCM), Customer Relationship Management (CRM), Strategic Enterprise Management (SEM), and Business Intelligence. Most Fortune 500 companies have already adopted Enterprise Resource Planning (ERP) systems and many midsize companies are also planning ERP implementations. With a commitment to keep pace with these changes in business processes and technology, the University of Missouri system joined SAP's University alliance and Microsoft's University Alliance programs in order to continue and expand classroom capabilities for integrating ERP software into the curriculum.

ERP systems can be used to reinforce many of the concepts covered in the business discipline. ERP systems incorporate state-of-the-art technology, providing a comprehensive teaching tool for business and for information systems. Universities that have successfully incorporated an ERP system into their curricula find unprecedented student demand for those subjects. There is also an increasing demand for ERP-related research.

ERP can be viewed as a combination of business management practice and technology, where Information Technology integrates with a company's core business processes to enable the achievement of specific business objectives. The Missouri S&T program prepares undergraduate and graduate students for positions as both technical and business consultants in the ERP field.

A Minor in Enterprise Resource Planning (ERP) and Missouri - SAP Certificate of Excellence

A Missouri S&T undergraduate student can earn a minor in Enterprise Resource Planning (ERP) by completing five courses, consisting of:

- BUS120 Financial Accounting
- ERP246 Introduction to ERP
- ERP 346 ERP Systems Design and Implementation

and two of the following

- ERP 345 Use of Business Intelligence
- ERP 347 Supply Chain Management Systems
- ERP 348 Strategic Enterprise Management Systems
- ERP 349 ERP System Administration
- ERP 442 Customer Relationship Management in ERP Environment*
- ERP 444/IST444 Essentials of Data Warehouse
- ERP 446 ERP Systems Configuration and Integration*
- ERP 448 Enterprise Performance Management System (EPMS) Prototyping *

* require application to ERP Graduate Certificate at the senior year

Students with a minor in ERP will be eligible for a Missouri S&T-SAP Certificate of Excellence, authorized by the SAP Corporation.



Enterprise Resource Planning Courses

ERP 246 Introduction to Enterprise Resource Planning (ERP)

Prerequisite: IST 50

Fundamentals of enterprise resource planning (ERP) systems concepts, and the importance of integrated information systems in an organization. The focus of this course is on illustrating procurement, production, and sales business processes using ERP software. Use of SAP's ERP Business Suite as an example ERP system.

ERP 345 Use of Business Intelligence

Prerequisites: IST 223 or equivalent experience, ERP 246 or BUS426 or ERP346 (may be taken concurrently)

Application of "intelligent" techniques from CS (AI, data mining), and OR (stochastic modeling, simulation, forecasting) to business decision-making. Overview of theory, with a focus on application to business problem solving. Use of SAP Business Intelligence (BI) as a tool to access and present data, search for patterns, identify exceptions, forecast, optimize, and schedule resources.

ERP 346 Enterprise Resource Planning Systems (ERP) Design and Implementation

Prerequisites: IST 50

This course provides a technical overview of Enterprise Resource Planning Systems and their impact on organizations. SAP's ERP system is introduced to illustrate the concepts, fundamentals, framework, general information technology context, the technological infrastructure, and integration of business enterprise-wide applications.

ERP 347 Supply Chain Management Systems

Prerequisite: ERP 246 or BUS426 or ERP346 (may be taken concurrently)

The course will study the need for supply chain integration and the challenges of managing complex interfaces. This course focuses on the systems approach to the planning, analysis, design, development, and evaluation of supply chain management. SAP's Supply Chain Management (SCM) or similar software is used to illustrate activities that lead to integration of information and material flows across multiple organizations in the supply chain including global supply chains.

ERP 348 Strategic Enterprise Management (SEM) Systems

Prerequisite: ERP 246 or BUS426 or ERP346 (may be taken concurrently)

This course will study different strategic performance management systems including dashboards, management cockpit, scorecards, and strategy maps in an organization. SAP's Strategic Enterprise Management (SEM), BusinessObjects Xcelsius, or similar tools will be used to enhance student education with real world applications.

ERP349 ERP System Administration

Prerequisites: ERP 346

System administration and performance monitoring practices for an Enterprise Resource Planning (ERP) system will be studied. Students will install an instance of an ERP system and establish user management attributes and system security.

ERP 442 (ERP401) Customer Relationship Management in ERP Environment

Prerequisite: ERP345

This customer-centric course emphasizes identification (targeting), acquisition, retention, and development (expansion) of (profitable) customers. It also covers effective and efficient management of customers with utilization of information technology. The SAP CRM module and SAS Enterprise Miner are used to enhance student education with real world applications and prepare graduates for future career requirements.



ERP444/IST444 Essentials of Data Warehouses

Prerequisite: IST 223 or Comp Sci 304 or equivalent relational database experience

This course presents the topic of data warehouses and the value to the organization. It takes the student from the database platform to structuring a data warehouse environment. Focus is placed on simplicity and addressing the user community needs.

ERP 446 Enterprise Resource Planning (ERP) Systems Configuration and Integration

Prerequisite: ERP 346

Implementation and design practices for business processes in Enterprise Resource Planning (ERP) systems. The course will examine and apply techniques used in SAP ERP system for system configuration and integration, with a focus on Financial Accounting, logistics, Controlling, and production.

ERP448 Enterprise Performance Management System (EPMS) Prototyping

Prerequisite: ERP 345

This course will study implementation and design practices for enterprise performance management and monitoring systems with a focus on dashboards, balanced scorecard, and value based management. SAP's Strategic Enterprise Management (SEM), Business Object Xcelsius, or similar tools will be used for project implementation

Typical ERP Course Schedule

<u>Fall ERP Course Schedule</u>	<u>Summer ERP Course Schedule*</u>	<u>Spring ERP Course Schedule</u>
ERP 345 BI ERP 346 ERP ERP 347 SCM ERP 448 SEMS Prototyping	ERP 349 ERP System Administration ERP 3XX ERP System Customization & Programming ERP 3XX Enterprise Portal	ERP 346 ERP ERP 348 SEMS or ERP 442 CRM ERP 446 ERP Configuration

* Summer session is used for offering special topics. The above courses are some examples of courses that might be offered.